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Studies on Tolerance of Chickpea to Some Pre and Post Emergence Herbicides

Authors : Rahamdad Khan, Ijaz Ahmad Khan

Abstract : In modern agriculture the herbicides application are considered the most effective and fast in action against all types of weeds. But it's a fact that the herbicide applicator cannot totally secure the crop plants from the possible herbicide injuries that further leads to several destructive changes in plant biochemistry. For the purpose pots studies were undertaken to test the tolerance order of chickpea against pre- emergence herbicides (Stomp 330 EC- Dual Gold 960 EC) and post-emergence herbicides (Topik 15 WP- Puma Super 75 EW- Isoproturon 500 EW) during 2012-13 and 2013-14. The experimental design was CRD with three replications. Plant height, number of branches plant-1, number of seeds plant-1, nodulation, seed protein contents and other growth related parameters in chickpea were examined during the investigations. The results indicate that all the enquire herbicides gave a significant variation to all recorded parameter of chick pea except nodule fresh and dray weight. Moreover the toxic effect of pre-emergence herbicide on chickpea was found higher as compared to post-emergence herbicides. Minimum chickpea plant height (50.50 cm), number of nodule plant-1 (17.83) and lowest seed protein (14.13 %) was recorded in Stomp 330 EC. Similarly the outmost seeds plant-1 (29.66) and number of nodule plant-1 (21) were found for Puma Super 75 EW. The results further showed that the highest seed protein content (21.75 and 21.15 %) was recorded for control/ untreated and Puma Super 75EW. Taking under concentration the possible negative impact of the herbicides the chemical application must be minimized up to certain extent at which the crop is mostly secure. However chemical weed control has many advantages so we should train our farmer regarding the proper use of agro chemical to minimize the loses in crops while using herbicides.

Keywords : chickpea, herbicides, protein, stomp 330 EC, weed
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